

Remarks

Claims 1-7 are pending.

The Office action objected to the drawings. Applicant notes that formal drawings were filed on February 14, 2002, together with the Response to the Notice to File Missing Parts.

The Office action also objected to the Abstract. Applicant submits an amended Abstract as required by the Examiner.

Claims 1 and 2 have been amended to address the objections to those claims. Claim 1 also has been amended to clarify that the optical bandpass filter is disposed in a stage of the apparatus between the light sources and the optical time domain reflectometer. In view of the latter amendment, applicant respectfully requests withdrawal of the rejection under 35 U.S.C. § 112, par. 2.

Claim 1-7 were rejected as unpatentable over the combination of U.S. Patent Nos. 5,956,131 (Mamyshev et al.) and 5,657,148 (Feuer et al.). As discussed below, applicant respectfully disagree.

The Law of Obviousness

A claimed invention is unpatentable due to obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person of ordinary skill in the art." 35 U.S.C. § 103(a).

As discussed by the Court of Appeals for the Federal Circuit, a proper conclusion of obviousness under 35 U.S.C. § 103 requires that there be some motivation in the prior art that suggests the claimed invention as a whole:

[A]n Examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few

patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be "an illogical and inappropriate process by which to determine patentability." [Citations omitted] To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show motivation to combine the references that create the case of obviousness.

*In re Rouffet*, 149 F.3d 1350, 1357; 47 USPQ2d 1453, 1457-1458 (Fed. Cir. 1998). As further explained by the Federal Circuit:

Our case law makes clear that the best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art references. See *Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. "Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight." *Id.*

"When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." *In re Rouffet*, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998) (citing *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987)).

*Ecolochem, Inc. v. Southern California Edison Co.*, 56 USPQ2d 1065, 1072-73 (Fed. Cir. 2000).

The showing of the motivation to combine must be "clear and particular." See, e.g., *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998); *Teleflex, Inc. v. Ficosa North Am. Corp.*, 63 USPQ2d 1374 at 1387 (Fed. Cir. 2002).

The Claimed Subject Matter is Patentable Over the Cited References

In the present case, the required "clear and particular" motivation to combine the references is lacking.

The Mamysheve et al. patent discloses two light sources 12, 14 generating signals at different wavelengths. The signals are combined and provided to a modulator 16, and then to amplifier 18. The circulator launches the optical signals into the fiber under test (F), and directs Rayleigh backscattered signals from the fiber to the receiver 28. A tunable bandpass filter 32 in the receiver selects the desired backscattered signal and passes the desired signal to a detector 34 measure the chromatic dispersion of the fiber.

The Office action relies on the Feuer et al. patent for its disclosure of coherence control and states that it would have been obvious to use such coherence control in the system of the Mamyshev et al. patent. As discussed below, that is incorrect.

The Feuer et al. patent states as follows:

Bidirectional transmission in modulator-based networks can suffer from optical interference, however, due to network reflections or Rayleigh scattering, so special measures are needed to control coherence of the upstream and downstream signals.

(Col. 6, lines 48-52) In other words, according to the Feuer et al. patent, in a bi-directional transmission network, it is desirable to *reduce* Rayleigh scattering, which can adversely impact the transmission characteristics as a result of interference. In contrast, the system disclosed in the Mamyshev et al. patent, which is for mapping chromatic dispersion in an optical fiber, is *based on* the occurrence of Raleigh scattering. As explained by the Mamyshev et al. patent:

The intensity oscillations are measurable as, for example, temporal variations in the Rayleigh backscattered light detected at the input end of the fiber.

(Abstract; see also, col. 2, lines 45-55 and col. 6, lines 57-60) Therefore, one of ordinary skill in the art would not have been motivated to reduce Rayleigh scattering in the system of Mamyshev et al. by using coherence control as suggested in the Feuer et al. patent. A contrary conclusion

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would be based on precisely the type of improper hindsight the Federal Circuit has warned against.

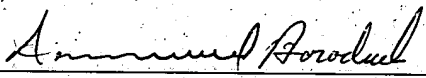
Conclusion

In view of the foregoing amendments and remarks, applicant submits that all claims are in condition for allowance.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 3/16/04

  
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